least one static injection part made of a material inert to the liquid metal and wettable by the liquid metal, the static part comprising a plurality of orifices,

the wettable material, and optionally orifice configuration, being selected such that bubbles emitted by the device have a spreading ratio of less than 5.

18. (New) Device according to claim 17, wherein the spreading ratio is less than 3.

19. (New) Device according to claim 17, wherein the spreading ratio is less than 1.5.

20. (New) Device according to claim 19, wherein the liquid metal is aluminum, magnesium or alloys thereof, and the wettable material is a metal or ceramic.

21. (New) Device according to claim 20, wherein the metal is selected from the group consisting of W, Mo, Ti, V, Cr, Fe, steels and alloys thereof.

22. (New) Device according to claim 20, wherein the ceramic is selected from the group consisting of TiB_2, AlN, BN, Al_4C_3 and TiC_{1-x}.

23. (New) Device according to claim 20, wherein the ceramic is a nitride or carbide.

24. (New) Device according to claim 20, wherein the orifices are located on top of tapered protuberances.

25. (New) Device according to claim 24, wherein at least

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one of the protuberances is removable.

26. (New) Device according to claim 17, additionally comprising means for regulating gas pressure at the orifices.

27. (New) Device according to claim 26, wherein the means for regulating comprises a mass flow meter.

28. (New) Device according to claim 26, wherein the means for regulating comprises a porous means introducing a local pressure head loss just upstream of the gas outlet orifice.

29. (New) Device according to claim 17, additionally comprising means for introducing shearing energy to the liquid metal.

30. (New) Device according to claim 29, wherein the means for introducing comprises an ultrasound means or a rotary stirrer means.

31. (New) Device according to claim 17, wherein the orifices are separated from each other by a distance sufficient that the bubbles do not come into contact while they are being formed.

32. (New) Device according to claim 17, wherein the static injection part is made of a plurality of elements assembled together.

33. (New) Device according to claim 17, wherein the treatment volume comprises a treatment tank, circulation chute

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or furnace.

34. (New) Process for treatment of a liquid metal in a bath comprising injecting of a gas through a plurality of orifices in a static gas injection device formed of a material wettable by the liquid metal and inert to the liquid metal, thereby forming bubbles of a diameter smaller than 20 mm with the liquid metal being at rest.

35. (New) Process according to claim 34, wherein the bubble diameter is smaller than 10 mm.

36. (New) Process according to claim 34, additionally comprising measuring bubble size by a method comprising irradiating the liquid metal bath into which the bubbles are emitted using X-rays, retrieving bubble images with a camera, displaying the bubble images and determining bubble size from the bubble images.

37. (New) Process for the treatment of a liquid metal by injection of a gas, comprising injecting the gas through a device comprising at least one static injection part made of a material inert to the liquid metal and wettable by the liquid metal, the static part comprising a plurality of orifices,

the wettable material and optionally orifice configuration being selected such that bubbles emitted by the device have a spreading ratio of less than 5.

38. (New) Process according to claim 37, wherein the

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spreading ratio is less than 3.

39. (New) Process according to claim 38, wherein the spreading ratio is less than 1.5.

40. (New) Process according to claim 37, additionally comprising measuring bubble size by a method comprising irradiating the liquid metal bath into which the bubbles are emitted using X-rays, retrieving bubble images with a camera, displaying the bubble images and determining bubble size from the bubble images.

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